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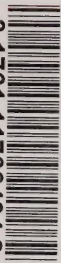
SchoolNet

MAGAZINE

Making a Difference with ICT

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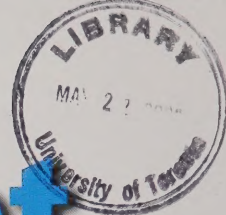
**E-learning According
to the Experts: What
Students Are Saying**

**Pioneer Sees Bright
Future for ICT in
Education**

**A Window on
Innovation in
Nova Scotia**

Canada

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SchoolNet

MAGAZINE Making a Difference with ICT



Canada's SchoolNet is proud to introduce the spring 2002 issue of the *SchoolNet Magazine*. This one-of-a-kind Canadian resource, also available online at www.schoolnet.ca/magazine, is designed to help teachers integrate the Internet into classroom teaching.

SchoolNet Magazine strives to provide educational articles on information and communications technologies (ICT) that are easy to understand and effective. As a result of a recent evaluation, we have made several changes to the magazine and also created an online survey to learn how these modifications work for you. We invite all Canadian teachers to participate in the second phase of the *SchoolNet Magazine* evaluation by completing the online survey located at www.schoolnet.ca/magazine/survey. The results will be included in the fall 2002 issue.

Distributed with this issue is the new SchoolNet poster. We hope you will find a place for it in your classroom. If you would like to receive additional copies for your school, please contact us at the coordinates located in the lower left corner of this page.

We appreciate your feedback.
Call 1-800-575-9200,
fax (613) 941-1296 or
e-mail schoolnet@ic.gc.ca
to let us know what you think of
the new *SchoolNet Magazine*.

See *SchoolNet Magazine's* online version at www.schoolnet.ca/magazine.



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Satellite Brings the World to Remote Canadian Schools

Telesat Canada, the world's most experienced satellite operator, is partnering with SchoolNet for high speed multimedia trials. These year-long trials will test delivery of high-speed video streaming and two-way data services to 40 locations in schools, businesses and home offices in remote areas.

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That's right, the Degraasi television series is back on the air! Launched in October 2001, *Degraasi: The Next Generation* is already attracting more than 730 000 viewers a week.

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Teaching Teachers to See the Joy and Possibilities of ICT

With a distinguished 25-year career, Toronto educator Leon Lenchner is a humble, thoughtful man with many stories to tell. One sticks out, though, as it has had enormous implications for how he views information and communications technology in learning.

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Critical Literacy Skills Crucial for Student Internet Use

The topic of Internet literacy is one that deserves much attention. It is becoming more prevalent for teachers and educators to teach students critical literacy skills that will empower them as they go online.

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Engage Your Students in Environmental Sustainability

One of the most important goals for today's teachers is to prepare children for the challenges of tomorrow. Since environmental sustainability will undoubtedly be among the top issues for future generations, there is a growing need to ensure that students are environmentally literate.

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SchoolNet

MAGAZINE Spring 2002



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SchoolNet and *The House* Bring National Politics to the Classroom

You may be familiar with CBC Radio's popular Saturday morning show *The House*. Now, thanks to a new partnership with Industry Canada's SchoolNet, *The House* has even more to offer!

A Celebration of Canadian Innovation!

Online activities, conferences and information technology expos are just some of the events that will take place from coast to coast during Canada's Information Technology Week, May 3-12, 2002.

Ask a SchoolNet Network of Innovative Schools Expert

Do you have questions about creating a vision for information and communications technology in your school? SchoolNet Network of Innovative Schools is proud to connect you to top-notch Canadian educators who have extensive expertise in this area and so many more.

New Direction for SchoolNet GrassRoots

With this school year, SchoolNet GrassRoots enters a new phase in close consultation with provincial and territorial partners and teachers.

What Do You Think of the New *SchoolNet Magazine*?

We have modified the magazine's content and layout based on your comments and suggestions. Now, tell us what you think.

Cover photo: David Trattles

Colonel By Secondary School is located in Gloucester, Ontario and is a SchoolNet Network of Innovative Schools member.

Editor's Note

T

his issue of *SchoolNet Magazine* is all about celebration. We know you will enjoy it.

We're celebrating the wonderful work that you the educators have recently been doing to implement information and communications technology (ICT), making learning better, more real and smarter. As you know, Canada's SchoolNet supports innovation with technology in education, so there's lots about SchoolNet's friends (companies, territories and provinces). And most of the magazine is all about you, Canada's educators.

As we begin the 21st century, we Canadians find ourselves working together to build an innovative culture of learners. In doing this, we are discovering that Canada is a culture of problem solvers. By learning from one another, Canadian educators have learned to ask questions, experiment and build further on what works best. This has been true from the days of the earliest SchoolNet GrassRoots project, born and tested in a classroom. This continues to be true of the latest and newest members of the SchoolNet Network of Innovative Schools (NIS), which are solving problems the rest of the world thinks to be insurmountable.

What are we seeing now?

Canadians are learning how to work together to bring about a better world for learning. Read Jitka Lichenik's account of the first phase of the pilot project between Telesat Canada, SchoolNet and 12 remote schools in Ontario, Quebec and Newfoundland and Labrador. This is about history being made!

This project is a partnership of the scientific and engineering communities with schools, educators, parents and students. Partnership is essential to making lifelong learning an accessible reality for everyone located anywhere in Canada. The project has a team of experts (engineers, teachers and learners) that will develop, apply and test the new technology to ensure it works superbly for other communities and schools.

What are we learning now?

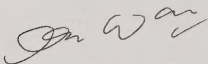
We at SchoolNet are learning by discovering and showcasing educators and schools who are innovating to improve learning. What is innovation? Innovation is about turning ideas and knowledge into new products, new services and new ways of doing things. It's about changing the way Canadians live, work and learn and creating opportunity for our children. We showcase Canadians' learning innovations to share with others looking for answers that work.

Check out Jennifer Murray's account of Nova Scotia educators' successful Information Economy Initiative, and think about the implications of Samir Khan's chat with master teacher Leon Lenchner, and of Angie Rumpf's interview with the new generation of innovative students coming from Canada's ICT-enhanced schools.

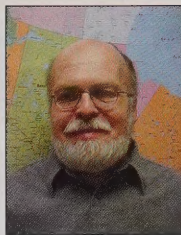
The world's most knowledgeable researchers in education are now watching what Canada's schools and educators are discovering and creating. Read Anne O'Shea's account of the visit by renowned educator Seymour Papert of the Massachusetts Institute of Technology to the 2001 SchoolNet Network of Innovative Schools Institute. Years ago, it was Papert who originated the idea that ICT could help children learn better. How deeply moved the great scientist was by the work of Canadian schools such as those in the Network.

What lies ahead?

We started with computers, and then linked them into the world. But how to move now beyond merely using software, doing research projects, building cool Web sites? How best can we use the new technology in new ways to revolutionize learning? You and your students hold the answers.



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SchoolNet

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E-learning According to the Experts: What Students are Saying

by Angie Rumpf

E-learning is rapidly becoming the buzzword of 21st century education. It is essentially what occurs when education and training are delivered and supported by networks such as the Internet or intranets. Therefore, computers and the Internet are opening doors and expanding minds everywhere.

"Those who access e-learning say it offers a new way of getting out of home and a regimented classroom for both teachers and students," explains David Beattie, coordinator of SchoolNet's Youth Advisory Board. According to Beattie, the Internet has become a heavily used research tool as well as a means of communication and expression for students. "Students tell me that they are using the Internet to participate in their community, their country and their world," says Beattie. "E-learning is a new tool that's making a real difference in terms of how they learn and create."

This is why when SchoolNet decided to dive deep into the impact, implications and future prospects of e-learning, we chose to go to the "experts" — students. Below, three members of

SchoolNet's Youth Advisory Board share their experiences, tackle the issues and foretell the future of e-learning as they see it.

SchoolNet Magazine: What has been your experience with computer-based learning and e-learning?

Tori: I use the computer and the Internet mostly for research. I use search engines and bibliographies on Web pages a lot. I also do a lot of Web surfing and play educational games. I like the Encarta Mind Maze trivia game. You can interact through the Internet while you're playing it. It gives you lists of Web sites related to a topic.

I like using online flash cards. They're the same as hard copy flash cards, only they're online. I found them when I was looking for math stuff on my favourite search engine, Yahoo!igans. CBC 4 Kids is another good gateway. My mom likes the *New York Times* learning and education site. It's based on curriculum and has a quote of the day and a word of the day.

SM: Where do you most use computers and the Internet for learning, at school or at home? Why?

Allie: I have access to a computer at home and at school. I believe in using the computer both at school, in the classroom, and on my own time. I use my home computer more often than the ones at school. At home, I use the computer for assignments, chatting, e-mail and instant messaging. The computer I have at home uses newer software, Microsoft ME. **Brian:** Most frequently I use e-learning at school.

Tori: I'm home-schooled, so I use my home computer. I just got my password for the Alberta Distance Learning Curriculum (ADLC) in September. I'll be taking language arts and science. I think it will be better because it's more immediate and interactive. It takes 10 days to two weeks to do paper courses. This is instant. I'll have more access to teachers of ADLC classes and to other kids in classrooms. My work will be marked by the ADLC teachers. I have to contact the teachers by phone once every two weeks or e-mail once a week, minimum. Teachers contact me when there's going to be a chat.

For chats, I use instant messaging. Sometimes, the ADLC teachers send e-mail invitations to chats about certain topics. Most of the time, I chat with other students who are at home or on their lunch break at school. I like MSN Messenger because I can actually see what the other kids are typing. It's like having a conversation. It's neat to see them typing, then backspacing over what they've said. It's like, "I want to say this. No! I don't want to say this."



Brian Jones, a student and a member of the SchoolNet Youth Advisory Board.

SM: Do you believe that e-learning will one day replace classroom teaching?

Allie: Computers shouldn't replace teachers. I say this because in class you have a teacher to help you out if you're stuck on a question. You can't ask a computer a question.

Brian: I don't really see e-learning replacing the classroom, but rather complementing it. From my experience, I seem to remember things better when a teacher has his or her own method of explaining a topic that seems to stand out in my head. I'm sure that if we are creative, we can easily come up with very innovative ideas to change the way students are taught in the classroom, and how students carry out their day-to-day studies. I dream of the day when I could just wake up, not have to worry about binders, textbooks or backpacks and just walk to school with nothing but the jacket I'm wearing. Ah, the freedom!

Tori: I want to see computers used a lot, because they're very useful. I'm way more comfortable talking to people on the computer because I'm sort of shy. Still, I don't think it's a good idea to replace teachers or classrooms. You need to interact with other people, to put a face to a name. I think that books are good, too. I use textbooks. There's something about flipping through real books. I love to read.

SM: Is there a downside to e-learning? Do you foresee any risks involved with e-learning? Say, issues such as plagiarism or the potential dangers of chat rooms?

Allie: I think that plagiarism affects a lot of school students. If they are doing research for a project, they could copy something word for word maybe not knowing what some of those words might mean.

Brian: I think that more work needs to be done in advertising and promoting online learning. If courses that can be taken online exist, then how come I don't know about them? It would be nice if students had a place where they could go to see what classes or subjects are being offered online.

Tori: I wouldn't want the computer to be anyone's whole life. How you access the Internet for learning is important: you should chat only with people you know. We've had times, my mom and I, when we weren't sure who someone was when I was chatting, so we signed off. Teachers should be watching when students are chatting online.

Except for special kids that are really honest, it's easy to cheat with the Internet. There are a lot more Web pages about any one topic than there are books. It's harder for teachers to find out whether kids are copying from online. Teachers need to know that.

SM: Does e-learning give you a broader perspective of, or access to, the world in which you live?

Allie: Yes I do think the Internet gives you a lot of information not only on your hometown but on the whole world.

Alexandra Lidguerre (Adams) is a bilingual student fluent in both D  n   and English. Originally from the small northern Saskatchewan fly-in community of Uranium City, Allie now resides in Prince Albert. Until this year, Allie was one of only 25 students attending Ben McIntyre School in Uranium City. She is now a student at St. Mary High School, with a student body numbering approximately 700. "The population here is a big change for me," she laughs.

Brian Jones attends grade 12 at Hammarskjold High School in Thunder Bay, Ontario. At 17, he's already doing freelance computer work, including networking, Web programming, graphics, desktop publishing and server administration for a variety of companies and organizations. For fun, Brian plays flight simulators, practises his guitar, sings and writes songs. He also reads "quite a bit."

Victoria Winning resides in Calgary, Alberta. Home schooled by her mother, Susan, Tori currently studies at the Grade 7 level. She originally became involved with SchoolNet through a nation-wide essay competition and now enjoys attending camps and conferences, as well as chatting online with her SchoolNet friends. An avid reader, Tori also has a passion for horses.

I believe the Internet has not only changed me but a lot of other people worldwide as well. I can communicate with friends and other students even more through e-mail, chatting and instant messaging.

Brian: I disagree. I think that reading books, talking to people and visiting actual places physically gives you the best knowledge and understanding of our society. My visit in May to Ottawa for a conference has given me a better understanding and appreciation of our country. When it comes to learning what the government is about, what it's like, nothing beats sitting in an actual parliamentary debate or Question Period in the House of Commons.

Tori: I like the idea that I can read other people's opinions on Web pages and in chat rooms. I'm learning from people all over the world, not just people I know near home. I have access to more information and more people from home through e-learning.

SM: How would you like to see computers and e-learning used in the future?

Allie: I think e-learning is best the way it's used right now. I think people use e-learning to be able to stay in their hometown without having to go to school somewhere else. In my hometown, there is one course available through e-learning, but I personally want to see more courses online.

Brian: For the future, I can easily see e-learning replacing today's instructional materials, such as textbooks, exercise


books and workbooks. Textbooks, for example, are expensive, expensive to replace, and 99.99 percent of the time they are too big and bulky to carry in a backpack. In our economics class, we have a shortage of textbooks due to a lack of funds. Because of this we are unable to take textbooks home, which seems to be slowing the pace of the course. An online version that we could use at school, or at least at home, that is in line with the course curriculum could really help us out. And since the textbook would be in an online/electronic form, updating it wouldn't be much of a problem, or an expensive task.

Another area I could see e-learning being used in is assignments, testing and quizzes. If tests could be done electronically, it would most likely be a lot easier for teachers to mark. Same with assignments; students could be a lot better organized if we didn't have tonnes of paper everywhere.

Tori: I'd like to see people use computers and e-learning to go to university and have job interviews all over the world. I have a friend with a WebCam and a program that lets us hear each other like we would on the phone. It would be neat to use this to see other teachers and students in my ADLC classes, so that I could interact in group discussions. I'd even like to take courses from other schools in other places in the world.


Angie Rumpf is a freelance journalist on special assignment with Canada's SchoolNet.

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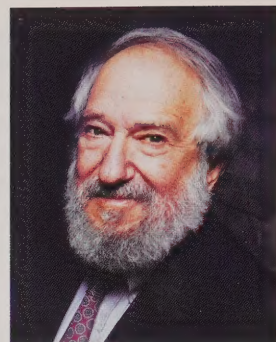
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Pioneer Sees Bright Future for ICT in Education



by Anne O'Shea

One of the truly memorable highlights of the 2001 SchoolNet Network of Innovative Schools Institute was the presence of internationally recognized theorist Dr. Seymour Papert. In addition to being a world-class mathematician, the author of the LOGO computer language, an early pioneer of artificial intelligence and a founding member of the Massachusetts Institute of Technology's Media Lab, Papert is one of the world's foremost thinkers on how computers help children to learn.

The SchoolNet Network of Innovative Schools Institute, an annual event hosted by SchoolNet, brought together teachers and students from the SchoolNet Network of Innovative Schools from across Canada to discuss the use of information and communications technology (ICT) in education. Selected through an open competition, the Network's schools receive federal grants to continue building their innovative approach to technology. They are leaders in the area of technology and education, and it perhaps should come as no surprise that Papert took an immediate interest in the program.

Papert has published numerous articles and books, each elaborating on his

extensive theory of learning. He argues that children learn best through what he calls constructionist learning. By building things from the ground up, students are forced to think critically, identify and seek pertinent information, and solve problems as they arise.

According to Papert, knowledge gained through this type of personal experience is infinitely superior to theoretically based learning. Since computers enable children to experience and negotiate complex systems such as mathematics and science, and allow children to build for themselves, they are the ideal educational tools of the future. This revolution in learning, claims Papert, will make the common separation of academic subjects obsolete. The interconnection between areas such as language, science and mathematics will become clear as schools move towards experiential learning.

Furthermore, Papert believes that the roles of teacher and learner are much closer than many suggest. Rather than dictating information to students, a teacher's role should be that of an expert learner. Teachers should help guide children through the learning process, and model good learning alongside their students. Needless to say, Papert's assertions have earned him a great deal of critical attention, both positive and negative.

However, not even Papert's detractors would have been able to resist the infectious enthusiasm for learning that marked the SchoolNet Network of Innovative School's Institute weekend. The featured projects by member schools were truly astounding, and as was everyone else at the Institute, Papert was very impressed.

In his keynote address, he commended the work of the Network and urged participants to continue working for innovative change within the school system.

A glance through the school displays made it strikingly clear why Papert was so impressed. These schools had gone far beyond using technology to build Web sites to display student work. They were actually giving their students the freedom to create technological change. The results were phenomenal. Not only had the participants learned through their work, but their projects also reflected their interests and needs, making the learning experience personally meaningful.

For example, students at Kelvin High School (www.wsd1.org/kelvin) in Winnipeg have been learning about network systems. For their final class project, they needed to build a working network. Rather than construct something that would later be scrapped and serve little purpose, students took the project to the wider community, and decided to build a school-wide network for a local elementary school. They tackled the project as true professionals, beginning with a consultation process to determine the school's needs, and then designing and building the entire network from scratch.

According to Kelvin High's acting principal Susan Anderson, the project has been an invaluable addition to classroom learning. "Certainly, the students who learn by experimenting as opposed to observing learn with more knowledge. It gives them the opportunity to experiment and see what works best for them." Most recently, the students collaborated with

the architects of a new primary school, designing the networks as an integral part of the new school building.

Laura Sample, the principle of Agnes L. Mathers School (www.alm.sd50.bc.ca) in Sandspit, British Columbia, had a similarly positive experience with ICT-enhanced constructionist learning. Because of the school's remote location in the Queen Charlotte Islands, a scattered chain of islands on B.C.'s Pacific coast, she has trouble getting students into a physical classroom. Several high school students took an interest in this dilemma, and began trying to solve it. Working in groups of three, they took old computers and upgraded them for use in a remote lab. The school provided all the materials, and teachers were on hand to help, yet the students were completely self-directed as they rebuilt the old machines.

Sample raves about the success of the project, noting that "the lab got several 'new' computers at a cost of less than \$500 each, which extended our limited school budget. But best of all, the mystery of the inner workings of computers was

gone for the students, and each displayed a new-found confidence and attitude towards technology." Furthermore, she notes, several students began upgrading their home computers after completing the project.

The computers the students built have now been moved into the school's electronic schooling program, which allows adult students to complete high school from home. This has significantly increased the accessibility of education in the Queen Charlottes.

Clearly, these ICT-enhanced constructionist learning projects have greatly benefited both the students and their communities. Yet they are a far stretch from the reality of curriculum restraints in which most teachers are forced to operate. How, then, can teachers integrate constructionist learning and the true power of the computer into the average classroom?

Obviously, the very parameters of school will need to change. According to Papert, the Network is showing the world exactly how — by simply giving children the tools, support and freedom to create

meaningful learning experiences. The results speak for themselves, showing that this kind of learning engages the full intelligence and imagination of the children involved. It is this proof that is needed to transform school from an experiment in rote learning to an engaging and meaningful experience.

Speaking as a teacher himself, Papert told the Institute participants that all they needed to do was keep going in the same direction. School, he claimed, has reached a crucial threshold. All that is needed is a little more pushing, a few more revolutionary learning projects, some enthusiastic and open-minded teachers and it will be catapulted into a totally new existence, one in which every child is engaged in meaningful and constructive learning!

Seymour Papert contributes to several Web sites. His biography and links to his other sites are at www.papert.org.

Anne O'Shea is an English and history student at Simon Fraser University in Vancouver. She is on special assignment with Canada's SchoolNet.

One big neighbourhood.

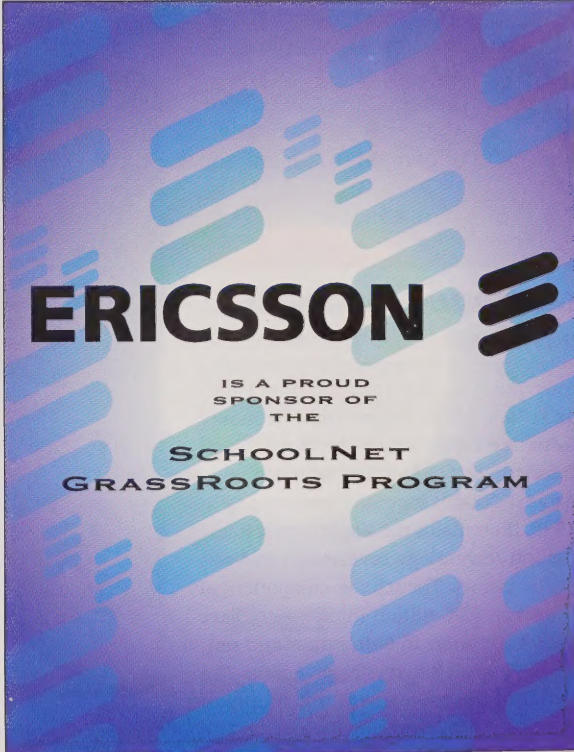



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A Window on INNOVATION in Nova Scotia

by Jennifer Murray

Lobster, warm hospitality and kitchen parties are not the only things to evoke thoughts of Nova Scotia. Innovative information and communications technology (ICT) projects and programs are being created in Canada's ocean playground to reach outside the realm of computer studies and into the heart of education.

THE INFORMATION ECONOMY INITIATIVE

Incorporating fun into learning is the drive behind the Information Economy Initiative (IEI), which the Nova Scotia Department of Education wrapped up in August 2001. Originally announced in 1998, IEI remains the single largest information technology investment in Nova Scotia history. The schools component of IEI was a \$38 million initiative to place 6200 computers in both junior and senior high schools across Nova Scotia. The intent of the project was not simply to provide computer hardware to the

schools, but also to fund technical support, software and personal development.

Sarah Hainsworth, education media librarian with the Nova Scotia Department of Education, says that teaching with technology for the new knowledge-based economy will become part of the mandated curriculum in Nova Scotia and the rest of Canada. "Technology will be more and more integrated into the classroom, as opposed to students having to make a special trip to the computer lab." Hainsworth also stresses the importance

of the professional development sessions for teachers so they can adequately use the technology and, in turn, provide structure and direction to their students.

IEI was funded federally and is having a widespread effect across the province. Teachers and students have mastered how to marry fun and education. "When children are having fun learning and are still working on the content, then this is, in essence, engaged learning," says Pat McDougall, technology integration specialist. "There are multiple kinds of



Gorsebrook Junior High Students in Halifax, Nova Scotia engage in innovative learning.

learning, and the telling-and-listening method of teaching only works for some people, some of the time. When you get the whole body into it, it becomes fun and there is no resistance."

Because of IEI, strong leadership has developed among teachers. McDougall says that a cadre of 30 teachers integrated information technology within their own school as well as others. Initially, the emphasis was on junior and senior high students; however, now a continuation program is in effect that will cater to the young, vibrant and knowledge-hungry minds of elementary-aged students in Nova Scotia.

In September 2001, the Department of Education extended IEI with \$4 million to place computers in grades 4 to 6 classrooms. Some of this funding will be for technical support, software and professional development. Eventually, the Department hopes to provide computers for primary to grade 3 classrooms.

The software installed in the computers is what McDougall likes to call

"open-ended software", such as Office 2000, Hyper Studio and Inspiration, a brainstorming tool. The novelty and usefulness of these resources never erodes. Students can use the same tools as they get older, but the approach just becomes more sophisticated.

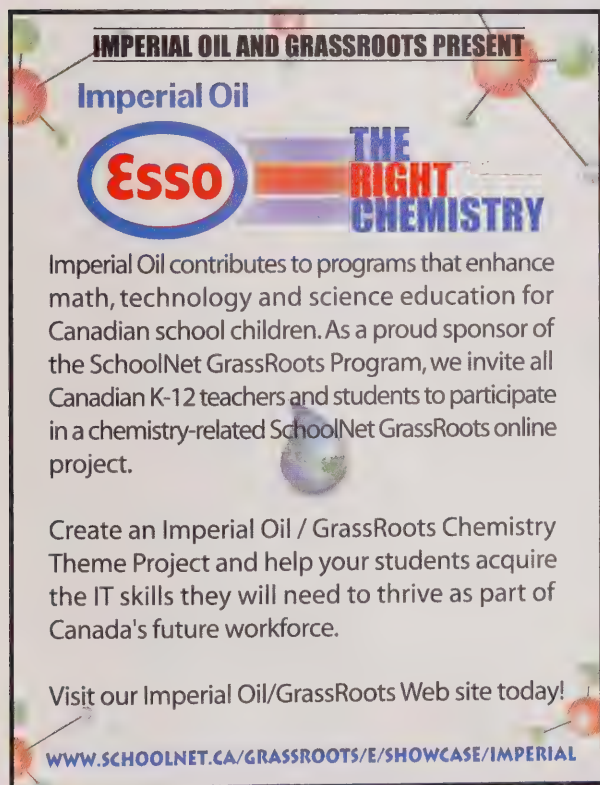
Sophistication and momentum go hand-in-hand. The introduction of IEI in schools has provided such forward momentum that more and more classrooms are able to take advantage of external learning opportunities such as the SchoolNet GrassRoots Program. McDougall estimates that in 2001 alone, more than \$177 100 in grants from SchoolNet GrassRoots were awarded to Nova Scotia schools.

At Ross Road School in Cole Harbour, for example, students in Shawn Marsh's Grade 8 English class brought Hollywood to the classroom. Over the course of the school year, the class composed movie scripts using only their imagination and a pencil. The creative twist of technology comes next. "We integrate technology with English in everything we do," says

Marsh. "The students know that for our major project we do this movie at the end of the year." A collaborative decision is made on which movie script to use. Then, as in any movie production, the cast, stage, sound and movie crew are chosen. The class takes one month to film the production and then a computer animation crew is compiled to add special effects and titles to the film. "In the end, the movie is presented on an LCD projector to the school," Marsh says. For more information on "Marsh Movie Madness," visit www.rrs.ednet.ns.ca/Marsh%20Movie%20Page/Home.

For more information on IEI, visit the Nova Scotia Department of Education Web site at <http://lrt.ednet.ns.ca>. For information on the SchoolNet GrassRoots Program visit www.schoolnet.ca/grassroots.

Jennifer Murray, a student in the public relations program at Mount Saint Vincent University in Halifax, is on special assignment with Canada's SchoolNet.



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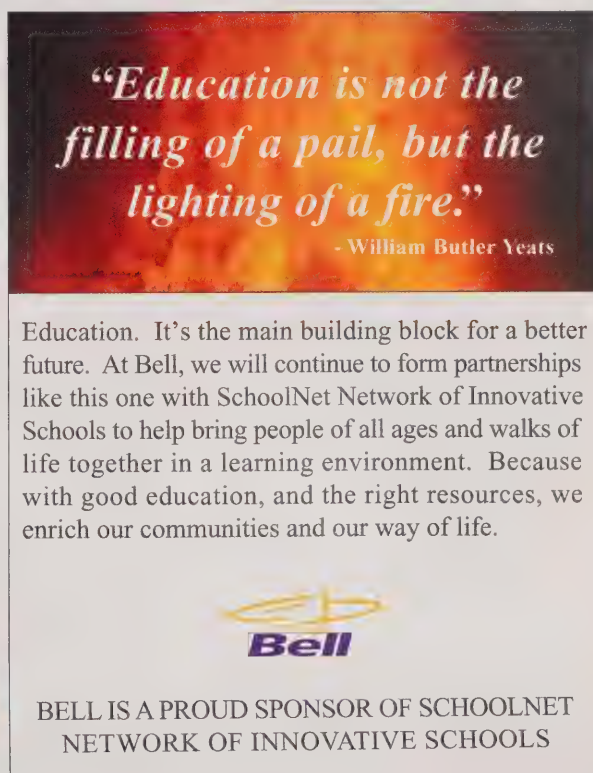
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Satellite Brings the World to Remote Canadian Schools

by Jitka Licenik

When 12 schools across remote parts of Ontario, Quebec and Newfoundland become connected to the latest Telesat satellite technology this winter, a new world of possibilities will open up.

Telesat Canada, the world's most experienced satellite operator, is partnered with SchoolNet for high speed multimedia trials. These year-long trials will test delivery of high-speed video streaming and two-way data services to 40 locations in schools, businesses and home offices in remote areas.

"This project is right in line with SchoolNet's mandate to promote the use of new technology in schools," says Jacques Drouin, manager of connectivity policy. "We're here to make sure teachers and students have the support to take full advantage of the new resources."

Telesat's satellite technology will provide the schools with high-speed Internet connections that would not be otherwise available in their remote locations. Included in the project are four schools in rural Newfoundland and Labrador,

five in Quebec and three schools and an education centre in Ontario.

Satellite technology provides more than just quick Internet surfing for students. Broadband connectivity means new and better multimedia learning applications, which help create new learning experiences. For example, students will have access to sophisticated videoconferencing technology that will allow for guest lecturers from around the world.

Staff and students will also be able to make use of new Web caches that will allow for storage of downloaded video clips and other Web objects. The caches will serve as Web site hosts for the schools as well.

Students at Roncalli Central High School, in Port Saunders, Newfoundland, are very excited about numerous projects that a new high-speed connection will make possible. The students have much pride in their radio station, video production and award-winning commercials, just to name a few. "With the current technology, the server gets extremely busy in the morning," says Don Tulk, computers, business and journalism teacher. "With all the tools we have at our already innovative school, speed will bring down the last barrier and we'll be able to show our high-end projects wherever we want."

The school is currently looking forward to making a music CD with a school in Nova Scotia. Roncalli journalism students also hope to broadcast their *Teen TV* newscasts to the world to "show off" their community.

"We hope to see this technology widely available in the future," adds Drouin. "It is a good solution for these schools because it provides access at the same levels as urban schools."

Staff and students at Glovertown Academy in Glovertown, Newfoundland, have their own plans. "We are interested in having our own Web server," says Derek Blackwood, technology department head. "It gives us more control over the content, look and features of our Web site. We are also really interested in conversing via video link-up with other schools to undertake many conjoint assignments."

Drouin notes that Telesat's satellite trials will not be considered successful unless the technology is properly integrated into school activities. If Roncalli and Glovertown are any indication, this project is headed for immediate success.

To see the creative innovations at Roncalli Central High School, visit its Web site at www.k12.nf.ca/roncallips.

Jitka Licenik, a masters of journalism student at Carleton University in Ottawa, is on special assignment with Canada's SchoolNet.

An Old Favourite Is Back

by Natacha Audet

That's right, the Degrassi television series is back on the air! Launched in October 2001, *Degrassi: The Next Generation* is already attracting more than 730 000 viewers a week.

Degrassi: The Next Generation is the fifth television series of the Degrassi family. Did you know that it all started back in 1979, with the first series entitled *Kids of Degrassi Street*? You are probably more familiar with *Degrassi Junior High* (1986), *Degrassi High* (1989) and *Degrassi Talks* (1992).

These television shows helped many young Canadians deal with growing up in the 1980s and 1990s, and certainly this new series will do the same for children growing up now. The shows focus on kids dealing with real-life problems. Approaching issues such as family abuse, teen moms and low self-esteem, the show now adds subjects such as inappropriate Internet content and the consequences of disclosing personal information over the Web.

The Degrassi.tv Web site (www.degrassi.tv) was created to complement these story lines. Degrassi.tv is not a typical site, since it is an integral part of the television show and provides viewers with the opportunity to immerse themselves in the Degrassi universe. By creating their personalized Web pages, sending and receiving D-mail (Degrassi e-mail) and interacting with characters, viewers feel a part of the show.

This site is not only filled with cool activities attractive to youth, but it also



helps young people learn to apply to their own lives the important issues covered in the episodes. A guidance section (www.degrassi.tv/dcs/guidance) helps kids find reliable personal resources and links to Web sites such as the Media Awareness Network (www.media-awareness.ca), the Kids Help Phone (<http://kidshelp.sympatico.ca>) and Teen Advice Online (www.teenadviceonline.org). The guidance section also points students to helpful and appropriate academic online resources such as the SchoolNet Homework Helper Web page.

SCHOOLNET HOMEWORK HELPER

In light of this new and exciting series, SchoolNet has partnered with Degrassi to develop the SchoolNet Homework Helper Web page. This unique online resource, created specifically for the Degrassi site, is filled with teacher-endorsed learning resources, daily online news for youth,

valuable links to such sites as SchoolNet News Network (www.snn-rdr.ca), Canada's Digital Collections (<http://collections.ic.gc.ca>) and The House Youth Connection (www.schoolnet.ca/the_house).

Since Degrassi reaches out to young adolescents, SchoolNet searched through the ever-growing SchoolNet Learning Resources database to identify the most useful and relevant sites for this age group. Degrassi's SchoolNet Homework Helper is the perfect place to start your Internet searches.

To find out more about *Degrassi: The Next Generation* and the SchoolNet Homework Helper, or to find out when the show airs in your area, visit www.degrassi.tv.

Natacha Audet, a huge fan of Degrassi Junior High and Degrassi High, is a liaison officer with Industry Canada's SchoolNet.

TEACHING TEACHERS

to See the Joy and Possibilities of ICT

by Samir Khan

With a distinguished 25-year career, Toronto educator Leon Lenchner is a humble, thoughtful man with many stories to tell. One sticks out, though, as it has had enormous implications for how he views information and communications technology (ICT) in learning.

"A few years ago, I arranged to have Kindergarten students use a computer on Friday afternoons," he explains. "I found some interesting math-related drill software and the children really enjoyed using them. One Friday, a student stopped in front of my classroom. It was Jeffery, a Kindergarten student, with a huge smile on his face. He blurted out, 'Where's the dog?' I looked in the hall searching for a lost puppy. I could neither hear nor see anything. Jeffery helped me out by pointing at the back of the classroom and shouting, 'There's the dog!' I looked and looked but still didn't clue in. Jeffery then ran into the room and pointed to the Commodore PET computer in the classroom. 'There's the dog!' It finally hit me that he was using the name of a specific object, dog, rather than the class of the object, PET."

Lenchner has long known how attracted children are to computer technology. As a result, he has channelled that attraction into a variety of innovative ICT learning projects with Joyce Public School. These projects touch upon such issues as the environment and the production and sale of new landmines. But more specifically, the school has a project on the Canadian Charter of Rights and Freedoms

in which extensive research was collected about the rights of a child.

Recently, Lenchner left school teaching to accept a position with York University's Faculty of Education, where he instructs new teachers on how to bring ICT to the classroom.

"New teachers need to see exemplary practices, and have an opportunity to work with the tools and apply these skills to their classroom situations," he notes. Lenchner also believes that it is critical that today's teachers adapt to large leaps in skills development.

"In 1992, I was trying to determine a set of technology skills for my Grade 4 students. When I looked at the same set of skills in 1994, I realized that the Grade 2 students were now using these skills," he says. "This led to a syndrome that I have coined Prevent Limited Perception Syndrome. It means this: do not underestimate what your students are able of accomplishing. If you think that a nine-year-old student is functioning at a peak level, then just wait two years and ask yourself what a nine-year-old can do then!"

What does the future hold for ICT learning? Lenchner worries about the growing role of private companies in ICT education.

"With many private firms trying to find a niche in the Web environment, there is a real push for parents to look to the Internet to supplement their children's learning," he says. "This lends itself to the privatization of learning. There needs to be a realization by schools and school boards that this is an area of service that they need to address."

Lenchner adds that the education community must never forget its larger motivations in ICT learning. "Do we use the technology to break down or build relationships? This is where I see the evolution and the social benefits of technology. We need to find approaches through which the technologies help to build our communities rather than isolate them."

To see the ICT learning projects from Joyce Public School, visit its Web site at <http://schools.tdsb.on.ca/joyce>.

Samir Khan is a freelance writer on special assignment with Canada's SchoolNet.



Leon Lenchner of York University interacts with Joyce Public School students at the 2001 SchoolNet Network of Innovative Schools Institute.

Critical Literacy Skills Crucial for Student Internet Use

by Bridget A. Ricketts

A 16-year-old girl recently contacted me about an online relationship. She had chatted for two years with a man she thought was 20, only to discover that he was 47. Initially flattered by his attentions, she began to question his motives when she discovered that her picture had been added to a collection of photos of other young girls. How can we help our students avoid this kind of situation?

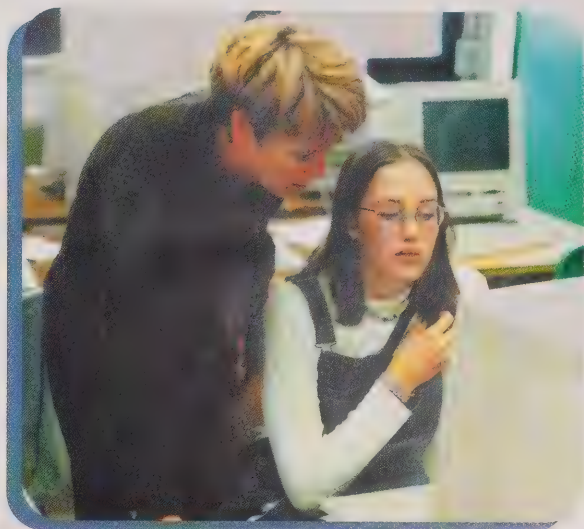
This example is what drew my attention to the topic of Internet literacy and the need for educators to guide student Internet use. Our task is to teach students critical literacy skills that will empower them as they go online.

This is increasingly important as children connect to the Internet in ever-greater numbers. A recent survey in St. John's showed that 76 percent of students have a computer connected to the Internet. Students use the Internet for entertainment, as well as for educational purposes. While there is little doubt that the Internet is a powerful educational tool, several issues surrounding Internet use have a direct effect on students.

The first concerns students' abilities to distinguish fact from fiction. How can students determine authority and relevancy on the Internet? One way to equip students with this necessary skill is to teach them Web site evaluation. They can use cues such as bibliographies, credible name sources and contacts to identify whether a site is an authoritative source of information. To learn more about Web literacy, a valuable resource is the Media Awareness Network (www.media-awareness.ca). It aims to promote and support media education in Canadian schools, homes and communities through a world-class Internet site. Online since May 1996, the Network site provides both curriculum-related media and Web literacy teaching materials for schools, and media awareness resources for community organizations.

Another issue regards online marketing, a large proportion of which is directed at children. Students must learn to recognize marketing techniques, and understand the need to keep personal information private.

Inappropriate and illegal content must also be addressed: how should students deal with it? Since students will likely encounter this type of information, we should provide a course of action to deal with it.



An issue of particular concern to educators is that of intellectual property. Whether students are downloading .mp3 files or visiting Web sites to steal a term paper, this requires serious classroom discussion. Finally, many students speak of the addictive behavior that is becoming common on the Internet. Most students can name several people who spend "all their time online."

So far, students have had little opportunity to develop critical Internet literacy in class. The authoritative nature of the didactic approach, combined with the use of textbooks as the primary source of information, results in a largely uncritical acceptance of information. Students have traditionally had little access to raw, unfiltered, even contradictory information. The Internet is a huge shift from textbooks, for which authors prescreen material for relevance and appropriateness. This newest chapter of the "information age" requires different learning techniques. As teachers, we need to equip students with a new set of skills, thereby enabling them to locate, analyze, evaluate and synthesize the vast amounts of information available. Students must become information managers; they must become critically literate.

Bridget A. Ricketts is a technology teacher at Prince of Wales Collegiate in St. John's. She chairs an action research committee investigating Internet literacy. Preliminary work has already been completed and several resources and tools are available online (www.pwc.k12.nf.ca/internetliteracy) to help teach critical Internet literacy skills.

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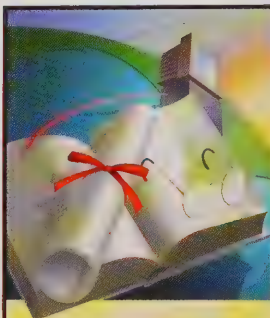
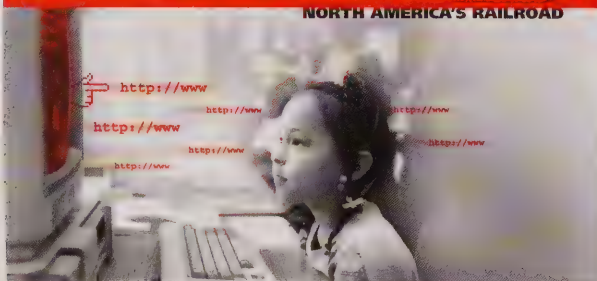
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Engage Your Students in Environmental Sustainability and Earn Money for Your School!

by Anne O'Shea

One of the most important goals for today's teachers is to prepare children for the challenges of tomorrow. Since environmental sustainability will undoubtedly be among the top issues for future generations, there is a growing need to ensure that students are environmentally literate. According to the Council of Ministers of Education, Canada, "the concept of sustainable development calls for particular skills, knowledge, values and attitudes regarding the environment, the economy and the well-being of people. Consequently, the nature of sustainable development is a decision-making process, a way of thinking, a philosophy and an ethic."

With such a wide definition, and so many factors involved, it is clear that any environmental education initiative must be far-reaching and be of significance to the participants.

The best environmental education projects combine a theoretical knowledge of the environment with practical skills, and have tangible results that students can see for themselves. When children are able to see the difference they have made, they are more likely to remember the project. This experience can serve as a motivator, and inspire children to continue such efforts in their personal lives.

For example, one of the best environmental learning projects allows students to thoughtfully redesign an environment that they experience every day — their

schoolyard! The Learning Grounds initiative requires students to research plants, consider the needs of local wildlife, design a sustainable and aesthetically pleasing space, and physically participate in implementing it.

Such projects allow kids to get down in the dirt as part of a constructive learning project. You can learn more about the Learning Grounds initiative through Evergreen Canada (www.evergreen.ca). This organization provides curriculum packages and design guides to help schools plan sensible and sustainable schoolyards, and even provides grants of up to \$1000.

Another great idea for an environmental education project is to join an ongoing environmental study. Classrooms can volunteer to collect data that will contribute significantly to ecological research. Environment Canada's Ecological

Monitoring and Assessment Network (www.eman-rese.ca) is always looking for volunteers to gather information. By participating in programs such as FrogWatch, IceWatch or WormWatch, your class can learn about local wildlife populations, gain an understanding of the factors that lead to population erosion, and contribute to efforts to curb environmental damage.

Environmental education continues to grow and develop. For more information about environmental education theory, pedagogy and practice, visit the North American Association for Environmental Education at www.naaee.org. General resources are also available at www.eecom.org.

Anne O'Shea is an English and history student at Simon Fraser University in Vancouver. She is on special assignment with Canada's SchoolNet.





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www.Sympatico.ca



Canada 

SchoolNet and *The House* Bring National Politics to the Classroom

by Anne O'Shea

You may be familiar with CBC Radio's popular Saturday morning show *The House*. The show reviews the week's parliamentary events and features interviews with key politicians. Now, thanks to a new partnership with Industry Canada's SchoolNet, *The House* has even more to offer!



about some of the things our governments do. Before September 11, people didn't really think about Parliament very much. Now there is tremendous attention on it because [politicians] are doing some serious things. They're sending men and women away to a dangerous place, and possibly taking away some of your rights. The decisions that are being made now are really going to affect these kids as they grow up."

SchoolNet has created a special Web site for *The House* to help make the week's program of interest to high school social studies classes. The site acts as a jumping off point for teachers who want to incorporate a dynamic discussion of current affairs into their regular lesson plans.

Each week, host Anthony Germain posts discussion questions on the site intended to focus class discussion time on one of the week's central political issues.

According to Germain, the new partnership with SchoolNet is an integral part of his push to make the program more appealing to young Canadians. Germain sees his greatest goal as getting more young Canadians interested in politics.

"If we can seize the opportunity, particularly on Saturday mornings when parents are listening, to reach out and say something to attract young listeners' attention then I think we're doing the country a service. We're trying to get younger people interested in politics and how the running of this country works.

"Particularly in a time of crisis, it's a good time — especially for educators — to try to engage younger people in thinking

"New media is what makes radio truly interactive," Germain adds. "It allows children and teachers to engage in a dialogue with one another, and with the team at *The House*. By incorporating radio, Internet and discussion, the program allows students to feel personally connected to the political sphere in Ottawa."

The House team is actively seeking teacher and student feedback. In fact, several teachers have already contacted Germain to express their appreciation for the new teaching tool! To give your input and see this week's discussion topic, go to www.schoolnet.ca/the_house.

Anne O'Shea is an English and history student at Simon Fraser University in Vancouver. She is on special assignment with Canada's SchoolNet.





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Visit www.schoolnet.ca/nis-rei and send a question today!



New Direction for SchoolNet GrassRoots

by Gerry McConaghy

"GrassRoots projects make learning exciting and real and expand my students' learning experiences." So said one of many teachers involved in the SchoolNet GrassRoots Program last school year. Teachers and their students created slightly more than 11 600 GrassRoots projects in 2000–2001, for a total of close to 22 000 since the program began in 1996. These projects, in either official language, come from all Canadian provinces and territories. They enhance the teaching and learning experience, particularly when teachers like doing cooperative, collaborative projects, and they provide additional dollars for their school.

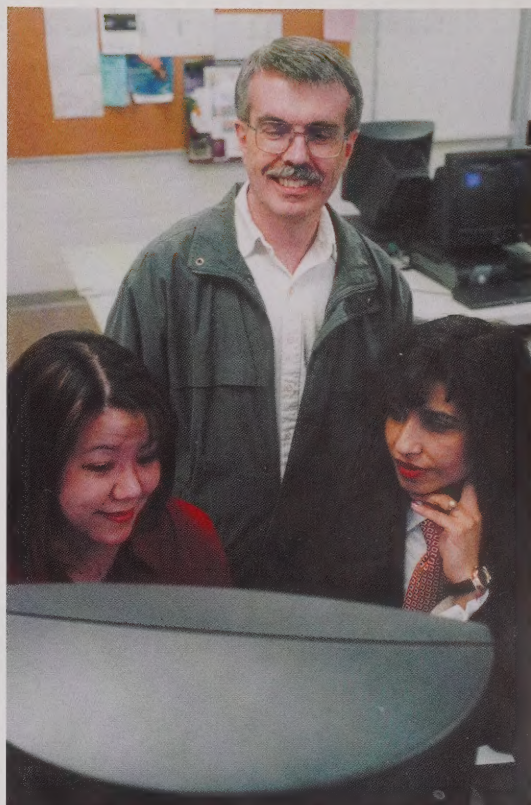
With this school year, SchoolNet GrassRoots enters a new phase in close consultation with provincial and territorial partners and teachers.

There is an increased emphasis on quality. Our partners advised us that to improve our quality we should clearly differentiate between each type of GrassRoots project and make the criteria for each as precise as possible. To that end, the SchoolNet GrassRoots Web site (www.schoolnet.ca/grassroots) provides detailed descriptions and a rubric for each project type. The rubric allows teachers to self-assess their proposal and provides a precise tool for evaluation committees to judge it.

SchoolNet GrassRoots supports the development of more challenging topics by emphasizing higher order thinking skills and the use of various media. As well, the proposal and report forms are a little more comprehensive and more user-friendly. The proposal gives teachers the opportunity to articulate the plan they will use to create their GrassRoots project.

GrassRoots projects are still for everyone — those who are new to using the Internet and those who have been integrating technology into their teaching for years. Category A remains for entry-level projects and should appeal to teachers new to integrating technology, either by carrying out an individual project or being a component of a block project. In fact, GrassRoots wants to increase the number of Category A projects and encourages teachers new to integrating technology into their teaching to become involved.

During the 2000–2001 school year, the Telelearning Network Centres of Excellence and the Conference Board



Teachers at Colonel By Secondary School in Gloucester, Ontario.

of Canada both carried out research on GrassRoots projects. They found the SchoolNet GrassRoots Program to be unique in its broad appeal. There is nothing quite like it in any other country. It can be used by students at any grade level and by teachers, regardless of experience. It fits into the curriculum of every province and territory and students learn the academic, social and technical skills to be productive, innovative, thoughtful and contributing citizens of the 21st century.

We hope you are involved in a SchoolNet GrassRoots project this school year.

Gerald McConaghy, EdD, is senior education advisor with the SchoolNet GrassRoots Program.

WHAT DO YOU THINK

of the New *SchoolNet Magazine*?

In the winter of 2000, many Canadian teachers participated in the first phase of an evaluation of *SchoolNet Magazine* by completing a telephone or mail-in survey. Based on your comments and suggestions, we have modified the magazine's content and layout. This spring, we are carrying out the second phase of the evaluation to find out what you think of the changes.

By quickly answering questions online (www.schoolnet.ca/magazine/survey), you will be helping us serve you even better.

The survey will be posted between April and May 2002, and the results will be available in the fall 2002 issue of *SchoolNet Magazine*.

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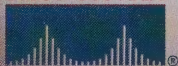
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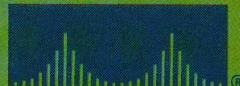


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